I/We claim:

1. An electrical transient protection circuit in a vehicle, comprising:

an input connector receiving an input voltage;

means for absorbing electrically connected to the input connector;

means for blocking electrically connected to the input connector, at least one of the means for absorbing and the means for blocking conditioning the input voltage by suppressing a voltage transient and producing a corresponding output voltage, the voltage transient being up to i) about 8 times the input voltage through a source impedance of about 0.4Ω for about 0.5 seconds, ii) about 50 times the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond, and iii) about 50 times a negative of the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond; and

an output connector delivering the output voltage, which is one of less than and equal to about 10% above the input voltage, to an electrical component on the vehicle.

2. The electrical transient protection circuit as set forth in claim 1, wherein:

the means for absorbing includes a metal oxide varistor; and

the means for blocking includes a field effect transistor.

3. The electrical transient protection circuit as set forth in claim 2, wherein:

the means for absorbing absorbs a first portion of the voltage transient;

the means for blocking blocks a second portion of the voltage transient; and

the second portion may represent up to all of the voltage transient.

4. The electrical transient protection circuit as set forth in claim 2, wherein the field effect transistor is an n-channel switching field effect transistor.

5. The electrical transient protection circuit as set forth in claim 2, wherein the field effect transistor is a p-channel switching field effect transistor.

6. The electrical transient protection circuit as set forth in claim 2, wherein the means for absorbing includes a transient voltage suppressor.

7. The electrical transient protection circuit as set forth in claim 1, further including:

a field effect transistor having a body diode electrically oriented for blocking a negative of the input voltage.

8. The electrical transient protection circuit as set forth in claim 1, wherein the means for blocking controls an electrical connection between the input connector and the output connector as a function of the voltage transient.

9. The electrical transient protection circuit as set forth in claim 1, wherein the means for absorbing and the means for blocking operate independently of each other.

10. An over-voltage transient protection circuit, comprising:

an input connector receiving an input voltage;

means for absorbing an over-voltage transient up to i) about 8 times the input voltage through a source impedance of about 0.4Ω for about 0.5 seconds, ii) about 50 times the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond, and iii) about 50 times a negative of the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond;

means for blocking the over-voltage transient; and

an output connector delivering an output voltage, which is produced by at least one of the means for absorbing and the means for blocking and which is less than about 200% of the input voltage.

11. The over-voltage transient protection circuit as set forth in claim 10, wherein:

the means for blocking includes:

a first field effect transistor having a drain electrically connected to the input voltage; and

further including:

a second FET having a source electrically connected to a source of the first transistor and a gate electrically connected to a gate of the first transistor, a state of the first transistor being controlled as a function of the input voltage, and a state of the second transistor being controlled as a function of a state of the first transistor, the second FET providing protection against a negative input voltage.

12. The over-voltage transient protection circuit as set forth in claim 11, wherein the first FET is rated at about 150 volts and the second FET is rated up to about 150 volts.

13. The over-voltage transient protection circuit as set forth in claim 10, wherein:
the means for absorbing includes a metal oxide varistor; and
the means for blocking includes an n-channel field effect transistor.

14. The over-voltage transient protection circuit as set forth in claim 13, wherein the metal oxide varistor is rated up to about 150 volts.

15. The over-voltage transient protection circuit as set forth in claim 13, wherein:
the metal oxide varistor absorbs a first portion of the voltage transient;
the n-channel field effect transistor blocks a second portion of the voltage transient; and
the second portion may represent up to all of the voltage transient.

16. An electrical transient protection circuit, comprising:
an electrical input receiving an input voltage;
means for absorbing electrically connected to the electrical input;
means for blocking electrically connected to the electrical input, at least one of the means for absorbing and the means for blocking conditioning the input voltage for suppressing a voltage transient and producing a selectable output voltage one of less than and equal to a sum of the input voltage and a tolerance associated with a means for detecting the voltage transient, the voltage transient being up to i) about 8 times the input voltage through a source impedance of about 0.4Ω for about 0.5 seconds, ii) about 50 times the input voltage

through a source impedance of about 20.0Ω for about 1.0 millisecond, and iii) about 50 times a negative of the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond; and

an electrical output for delivering the output voltage.

17. The electrical transient protection circuit as set forth in claim 16, wherein the means for absorbing and means for blocking operate independently of each other.

18. The electrical transient protection circuit as set forth in claim 16, wherein:

the means for absorbing includes a metal oxide varistor rated up to about 150 volts; and

the means for blocking includes a first field effect transistor rated at about 150 volts.

19. The electrical transient protection circuit as set forth in claim 18, wherein the means for blocking includes:

a second field effect transistor operates independently of the first field effect transistor.

20. The electrical transient protection circuit as set forth in claim 16, wherein:

the means for absorbing absorbs a first portion of the voltage transient; and

the means for blocking blocks a second portion of the voltage transient, the second portion being up to 100% of the voltage transient.

21. An electrical transient protection circuit, comprising:

an input receiving an input voltage;

electronic components, electrically connected to the input and having electrical ratings less than about 150 volts, for suppressing a voltage transient and producing a corresponding output voltage less than about 200% of the input voltage, the voltage transient being up to i) about 8 times the input voltage through a source impedance of about 0.4Ω for about 0.5 seconds, ii) about 50 times the input voltage through a source impedance of about

20.0Ω for about 1.0 millisecond, and iii) about 50 times a negative of the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond; and

an output for transmitting the output voltage.

22. The electrical transient protection circuit as set forth in claim 21, wherein the electronic components include a metal oxide varistor for absorbing the voltage transient.

23. The electrical transient protection circuit as set forth in claim 21, wherein the electronic components include a transient voltage suppressor for absorbing the voltage transient.

24. The electrical transient protection circuit as set forth in claim 23, wherein the electronic components include a field effect transistor for blocking the voltage transient.

25. A method for suppressing electrical transients, comprising:

receiving an input voltage via an input connector;

blocking a first portion of a voltage transient at the input connector, the voltage transient being up to i) about 8 times the input voltage through a source impedance of about 0.4Ω for about 0.5 seconds, ii) about 50 times the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond, and iii) about 50 times a negative of the input voltage through a source impedance of about 20.0Ω for about 1.0 millisecond;

if substantially all of the voltage transient is not blocked, absorbing a second portion of the voltage transient at the input connector;

producing an output voltage, which is less than or equal to about 200% of the input voltage, as a function of the input voltage, the first portion, and the second portion; and

delivering the output voltage to an output connector.

26. The method for suppressing electrical transients as set forth in claim 25, wherein:

the absorbing includes:

absorbing the second portion of the voltage transient having about 600 Volts through a source impedance of about 20.0Ω for about 1.0 millisecond; and

the blocking includes:

blocking the first portion of the voltage transient having about 150 Volts through a source impedance of about 0.5Ω for about 0.4 seconds.

27. The method for suppressing electrical transients as set forth in claim 25, wherein the blocking includes:

controlling an electrical connection between the input connector and the output connector as a function of the voltage transient.

28. The method for suppressing electrical transients as set forth in claim 25, wherein the blocking includes:

setting a field effect transistor to an open state.

29. The method for suppressing electrical transients as set forth in claim 25, further including:

selectively controlling the output voltage, as a function of tolerances associated with components in a transient detection circuit, to 110% of the input voltage.